hurdles. The floor must be marked to get right distance for steps between hurdles.

Free Gymnastics: Form and leg movements with music.

Games: Catch ball, bean bags in a circle, circle ball.

References: Mrs. Peary's *Journal;* Rice, *Outline of History and Literature;* Schwatka, *Children of the Cold;* Kipling, *Jungle Book;* Heilprin, *Distribution of Animals;* Nansen, *The First Crossing of Greenland* and *Farthest North;* Wright, *Greenland's Ice Fields and Life in the North Atlantic;* *The Search for Franklin;* Baldwin, *The Search for the North Pole;* Martin, *Human Body;* Jackman, *Nature Study and Related Subjects*, pp. 80-85; Richards, *Chemistry of Cooking;* Cooke, *Nature Myths;* Longfellow, *Hiawatha;* Jane Andrews, *Seven Little Sisters* and *Each and All.*

Third and Fourth Grades

Gertrude Van Hoesen

Geography for the Third Grade: In the work planned for January it is only possible to make excursions to the different places that will represent the food supply of the city. They will only be able to get some idea of the immense amount of food shipped into the city.

The work for February will consist of a study of the sources of all of these supplies by means of stereopticon views, pictures, and descriptions.

I. Fruit.

1. The orange and lemon groves of Florida and California. How are these fruits prepared for shipping?

2. Where are the grape-fruit and tangerine found?

3. The banana groves; pine-apple fields; date and cocoanut palms; olive and fig orchards.

II. Vegetables and grains.

1. The large market gardens near Chicago.

2. Those of California owned by the Chinese.

3. The large farms of Illinois.

III. Animals.

1. The large stock farms of the West, with its typical life.

2. The life of the hunter who captures and ships the game.

IV. Means of transporting these things into the city.

The children will be given some idea of Chicago as a railroad center by drawing into a large picture the railroads which bring the food from the different sources.

Geography for the Fourth Grade: During January the children are studying Lake Michigan in its relation to the life of a great city. In February, by means of the stereopticon, pictures, and written and oral descriptions, they will be taken out of their environment to the life of the ocean, and be led to see that the only difference lies in the fact that the water is salt, thereby producing a different animal life and influencing the industries to some extent.

By means of the stereopticon, views of many coasts will be shown, and the following points considered:

I. The life of the people.

1. Their homes.

2. Their occupations.

II. What has been done to protect the lives and industries of these people?

1. Lighthouses.

2. Fog-horns.

3. Buoys.

4. Life-saving stations.

Stories of the bravery exhibited by these men during the storms along the coast. One of these stories will be adapted from a scene in *A Singular Life.*

III. Animal life will be especially studied.

1. Fish.

2. Oysters.

3. Lobsters, etc.

4. Sponges.

5. Polyps. (a) Coral. (b) Sea-anemone.

6. Star-fish, sea-urchins, sea-cucumbers.

IV. What is the difference between the water of Lake Michigan and that of the ocean? Cause?

Science: Continue work on food, temperature, and prehension of food. Special subject, air; point, ventilation.

I. Prove the presence of air.

1. Experiment: Invert a glass over a pan of water, and press down on the surface of the water. Why does not the water go up into the glass?

II. Prove necessity to fire.

III. Prove necessity to plants.

IV. Prove necessity to us.

1. Take the chest measurement of each child, both in natural and expanded conditions. To what does one inch in expansion correspond in terms of capacity or volume?

a. Experiments: Take a bottle of known capacity, place a U-shaped glass tube, one end reaching to the bottom of the bottle, the other fitted into a rubber tube, which may be placed in the mouth. Fill the bottle fitted as described with water, and invert it in a pan of water. Exhale. What happens? What amount of air was exhaled? In order to answer, measure the amount of water left — in pints, quarts, etc. In how many exhalations can a bottle be emptied?

b. Invert the bottle filled with air in a pan of water. Inhale. What happens? What is the amount of air inhaled? In how many inhalations can you fill the bottle?

c. After giving each child an opportunity to become familiar with the apparatus, make a record of each child's lung capacity. What is the lung capacity of the class? How much does the class exhale in one exhalation? Do we inhale and exhale the same thing?

d. Have one of the children blow into a jar several times. Then plunge a lighted taper into it. Note result.

e. Have a child exhale into a test tube containing lime-water. Note result. If a fire will not burn in what we exhale, what will be the effect if we inhale it? How can we be sure that we do not inhale it?

f. Place lime-water in an open vessel in various parts of the room, near the ceiling and on the floor. In what way can we be sure of getting pure air? Open the window slightly at the top and bottom. Test the direction of draught with lighted candle or smoke. What would result if the windows were left open in this way?

Have the children work out the best way to ventilate the room.

Number: I. Number involved in the study of air.

1. Amount of air inhaled by each person.

2. Total amount inhaled by the class. Average amount.

3. Total amount exhaled by class. Average amount.

II. Physical measurements of children.

1. Average height of the class. Of the boys. Of the girls. Of different ages.

2. Average weight of same.

3. Average age of each class.

4. Average chest measurement.

What has been the individual growth since October?

History: The Athenian boy. (Taken from Miss Rice's Outline.)

Story of Socrates, setting forth the poor house in which he was born, together with its surroundings—the potter's shop across the street; the sandal-maker's shop near it; the ceremonies at Socrates' birth; how the boy amused himself at home; the work at school and at the gymnasium. The appearance of the street through which he walked to school; his walk to Piræus one day to see the ships; his trials in learning to be a sculptor; what he saw when he was one day sent to the market-place; how he saw the building of the Parthenon.

The real success of the work depends upon giving the children the Greek feeling, in making them feel at home in Athens. In order to do this, it will be necessary to make them see the city and the country around it—mountains, rivers, seas, trees, flowers, animals, buildings, and people. They must do as many as they can of the things the Greeks did; e. g., play Greek games, mold Greek vases in clay, write on wax tablets made by covering thin boards with paraffine.

An excursion to the Greek room in the Art Institute will prove of great value. Pictures, models, or actual objects must

be used at all times—pictures of Greek houses, the fac-simile of Greek vases, and the Greek dress, for which the children will make designs and borders.

Music: (MISS GOODRICH.) These two grades contain two different elements— one musical and independent, the other unmusical and self-conscious, with a tendency to scorn songs simple and childlike enough to connect with the work they are doing in other departments. The songs will be chosen for these older and less musical children, and for the present the emotional side will be left subordinate and the technical emphasized. As many as possible of those used in morning exercises will be learned, in which the Third Grade will grasp the tune easily, and the Fourth will understand and remember the words best. The two grades sing for each other at every lesson; the less self-conscious children are called upon for individual work, and it is hoped that the usefulness and naturalness of singing alone will presently be established generally.

Songs: *Flag Song*, February COURSE OF STUDY; *Hail, Columbia*, Modern Music Series, Second and Third Books; *Le Rat de Ville, et le Rat des Champs*, February COURSE OF STUDY; *Fatherland's Psalm*, Grieg (Augener & Co., Seven Children's Songs); *In February*, Songs of Life and Nature. Other songs more generally suitable for these grades: *Sleepy Head, The Snow Man*, Modern Music Series, First Book; *Hurrah for the Flag, Song of Labor, The Snow Man*, Modern Music Series, Second Book. The patriotic and other songs which require power and breadth are of course sung, so to speak, in miniature.

School Economics: (See Miss Cooke's Outline.)

Textile Fabrics: The children will design and make aprons to be worn when cooking and weave holders to be used in moving hot vessels. They will decorate the Greek dresses with embroidered designs.

Art: Modeling in clay Greek vases, decorated by Greek design, or scenes in Greek life, as the boys playing with the discus; the sea animals. Illustration in painting of scenes

from Greek life and of the myths that the children of that nation were told; the pictures of the life on the coast; the surrounding landscape and the great food areas.

French: It is entirely correlated with the nature study, manual training, textile fabrics, and literature. The French literature for the month will consist of French fairy stories.

Literature: *Greek Stories*, Baldwin. The stories that the Greek children were told, as *Arachne* and *Prometheus*, especially those which emphasized the qualities which they as a people wished to impress upon the children.

Dramatic Art: In connection with the life of Socrates as a type of the Athenian boy, the dominant characteristics of the gods will be considered, and their influence upon the life of the people, as, for example, the influence of Minerva on weaving and spinning as illustrated by the story of *Arachne*, told by Baldwin in *Old Greek Stories*. This story will be dramatized. The story will be read to the children. They will suggest the action and let the action suggest the words until a little drama is the result.

Among other Greek stories used, *Prometheus* illustrates the characteristics of Jupiter. The children will read them whenever it is possible.
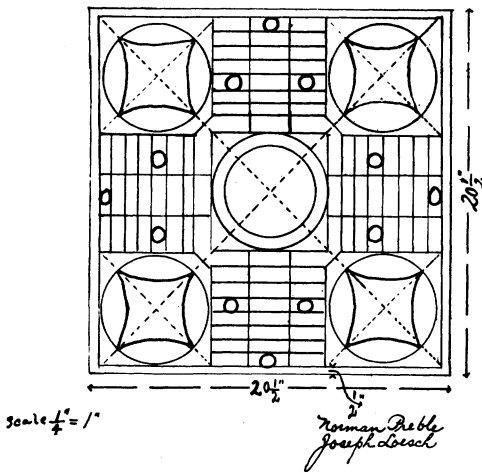
Manual Training: In January the children chose to make a set of games for the play-room. They selected the games they wished to make, which were parchesi, crokinole, conette, ring toss, parlor quoits, board and hooks, and checkers. They then decided on the number of each, and the room was divided into committees in order to make and present plans from which to work, each committee having charge of one game. Each child planned the game, and submitted it to the committee, and then the plan to be followed was selected. The plans in this COURSE OF STUDY were traced directly from those made by the children. The scales below the drawings indicate the scale used by the children, not the one used in this book.

In most cases the plan was made full size on the board, and then reduced to the ½-inch, or ¼-inch, or ⅛-inch to an inch in order to put it on the paper that the children use for all of their work. Rulers, pencils, and dividers were the only tools used in making the plans.

The work was divided among twenty children, all working at one time, and was therefore perfectly individual, and at no time dictated.

The ·amount of number involved for the individual child may be illustrated by means of the game parchesi.
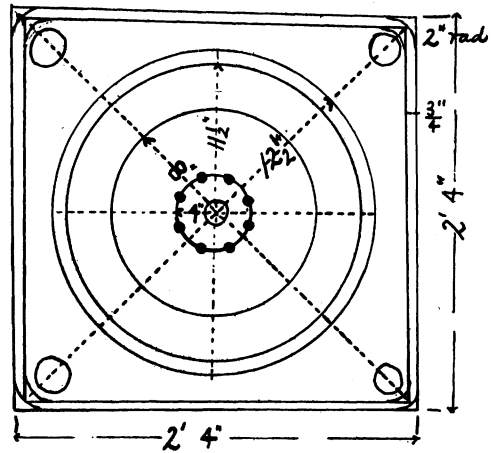
Parchesi.

Scale ¼" = 1"

Norman Preble
Joseph Loesch

The full-sized plan required the most careful measurement and judgment. It was not drawn on the blackboard, but on a large sheet of manila paper. The foundation of the game is a piece of wood 20½ inches square, with a half-inch bevel. In order to reduce it to the scale indicated, the following were some of the problems:

¼ of 20½ inches = 5⅛ inches.

¼ of ½ inch = ⅛ inch.

¼ of 5¼ inches = $1\frac{5}{16}$ inches.

¼ of ¾ inch = $\frac{3}{16}$ inch.

and others of the same kind.

Crokinole Board.

Scale ⅛" = 1"

Filmer Coy
Emmons Blaine

The crokinole board consists of ten pieces, the foundation of which is a large piece of wood 2 feet 4 inches square. The large circle indicates a large circular piece of dark wood, which is fastened on the square. The other circles merely indicate circles on this dark circular piece of wood. The corner circles represent pockets of coarse net.

The number necessary in drawing the plan to the scale indicated was:

⅛ of 2 feet 4 inches = 3½ inches.

⅛ of 12½ inches = $1\frac{9}{16}$ ·inches.

⅛ of 11½ inch $1\frac{7}{16}$ inches.

⅛ of 4 inches = ½ inch.

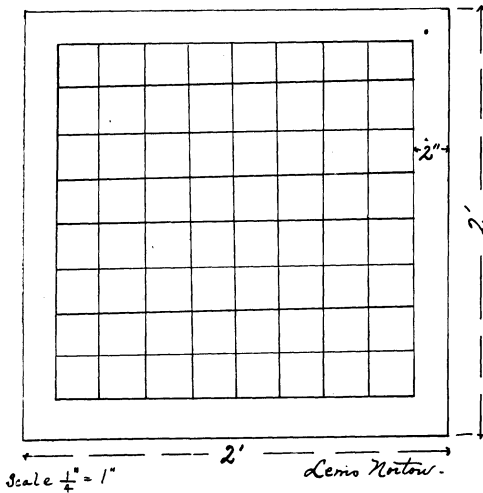⅛ of ¾ inch = $\frac{3}{32}$ inch.

⅛ of 2 inches = ¼ inch.

The problem in planning the checkerboard was different from the two preceding ones, as there was no checker-board for a model. The plan as it now stands represents a board two feet square. The children at work after several trials decided upon a two-inch border. The problem then was, how to put eight rows of eight squares in the remaining space which was twenty inches square.
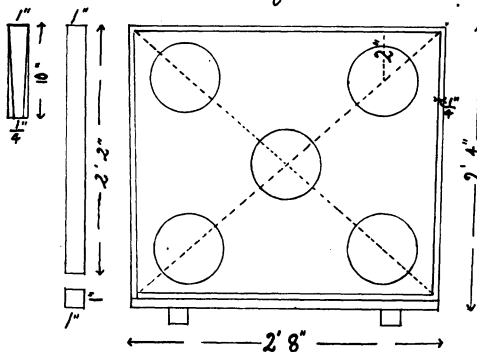
Also:

¼ of 2 feet = 6 inches.

¼ of 2½ inches = ⅝ inch.

Checker-board.

Scale ¼" = 1"   *Lewis Norton.*

The game of parlor quoits or bean-bag is a familiar one, but the plan as presented is original. It consists of five pieces, a large rectangular board with a quarter-inch bevel,
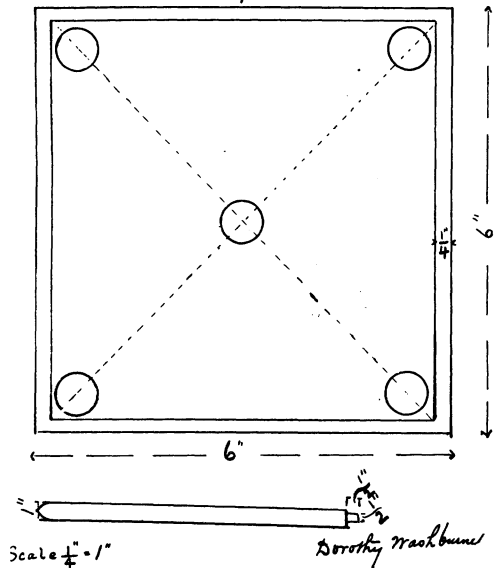
Parlor quoits

two strips which brace it at the back, and two legs which are fastened to one of the braces by means of hinges. The holes through which the bean-bags are thrown have different values, which were omitted on the drawing—twenty-five for the central hole; five, ten, fifteen, and twenty for the

remaining holes. The number involved will be apparent if the dimensions and scale are noted.
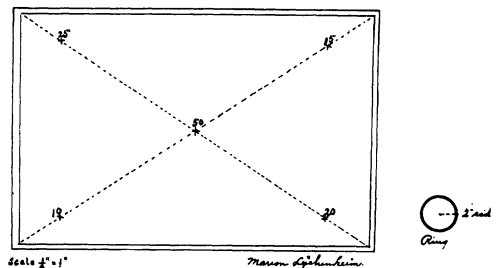
The game of ring toss consists of a standard two feet square with a half-inch bevel, five upright posts, the center one being one and a half feet tall, and the others one foot, and five rings four inches in their inner diameter. The rings will be made under the direction of the teacher of textile fabrics.

Ring Toss.

Scale ¼" = 1"   *Dorothy Washburne*

The principle of this game and that of ring toss is the same with one exception. At the points indicated large hooks are placed. The board is then placed in a vertical position. In ring toss the po-
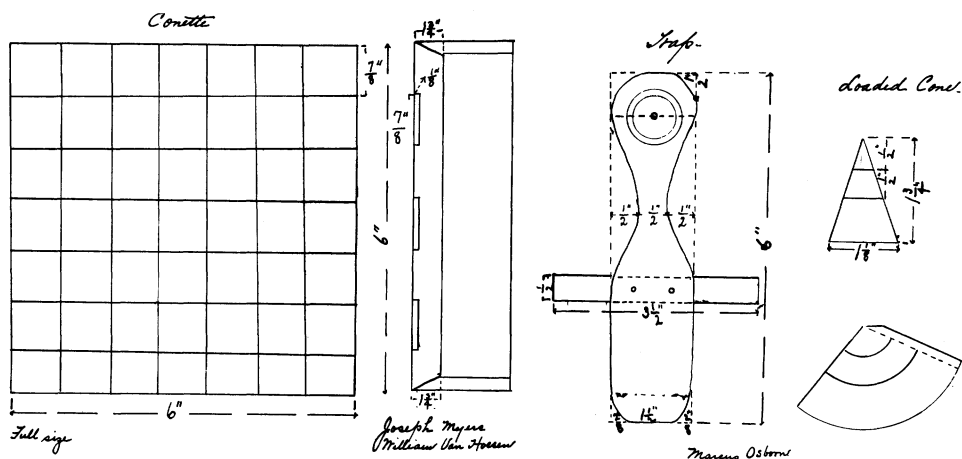
Board + Hooks.

Scale ¼" = 1"   *Marion Lijphaukim.*

sition is horizontal; but in both cases it consists of throwing the five rings so dexterously as to place one on each hook or pole.

Conette consists in a box six inches square and one and three-fourths inches high, two traps, and a cylinder of loaded cones. The plan presents a view of the box as seen from above and one side of the box. Across the top of the box cords are strung at right angles with each other, so as to make a net. The most ingenious piece of work done in all the work with the games was probably the planning of the trap by a boy who is very averse to number but deeply interested in all constructive work. The trap was given to him with directions to show how to make one. The plan as shown here is what he produced at the end of one-half hour. The game of conette is one which was gotten out by the Milton Bradley Company.

Fifth Grade

Clara Isabel Mitchell

The kinds of hand-work planned for the month are cooking, weaving, clay-modeling, and wood-sloyd.

Cooking: In January the class began the cooking and study of cereals. The first lesson was the comparison of familiar cereals—wheat, corn, oats, barley, and rye; the popping of corn, weighing before and after popping; and making of popcorn balls. The second began with an examination of the corn food—corn meal, fine and coarse, hominy and corn-starch, followed by the making of corn-starch mold. The third was washing the starch out of wheat, boiling it and using. The fourth was the roasting of wheat and oats for cereal coffee, making the coffee; also of postum cereal.

Continuing the study of cereals in February, the children cook oats, corn, and wheat, comparing them with potato as another starch food. The first lesson will be the cooking of oatmeal and wheat germ by the following rule (Mrs. Alice P. Norton's):

(All measurements are made level.)
WHEAT GERM WITH DATES.

2 tablespoons of wheat germ.	⅛ teaspoon of salt. 4 dates, or
½ cup boiling water.	4 stewed prunes.